

REMARKS

Claims 1-7, 10-18, and 20-22 are pending, of which claim 1 is an independent method claim with corresponding independent computer program product claim 11, and claim 22 is an independent system claim. As indicated above, no claims have been amended by this paper.

In the arguments filed on June 11, 2004, Applicants indicated that previously pending claims 9 and 19 had been rewritten in independent form as claims 1 and 11, respectively. Since claim 9 depended on claim 1 through dependent claim 8, rewriting claim 9 in independent form included reciting the limitations of both claim 8 and claim 9 within independent claim 1, whereas claim 19 depended directly from claim 11, and therefore rewriting claim 19 in independent form included reciting only the limitations of claim 19 within claim 11. The Office Action indicates that claim 8 is missing from rewritten claim 1 and requests clarification. Office Action, p. 5 (Response to Arguments).

As originally filed, claim 8 recited "wherein the Application Program Interface is configured to treat each pixel as a single luminance intensity source, rather than treating each pixel sub-component as a single luminance intensity source" and claim 9 recited "an act of processing the sub-component-oriented character to interface with the Application Program Interface." The second limitation of claim 1 currently reads "an act of processing the sub-component-oriented character to interface with the application program interface of the hardware graphics unit, wherein the application program interface is configured to treat each pixel as a single luminance intensity source, rather than treating each pixel sub-component as a single luminance intensity source." With the exception of a change in capitalization, the limitation of claim 8 is recited verbatim in claim 1.

The Office Action rejected all pending claims under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,356,278 to Stamm et al. ("*Stamm*") in view of U.S. Patent Application Publication No. US2002/0167523 A1 by Taylor et al. ("*Taylor*").¹

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation . . . to combine reference teachings. Second, there

¹Although the prior art status of all cited art is not being challenged at this time, Applicants reserve the right to do so in the future. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status or asserted teachings of the cited art.

must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP § 2143.

Applicants' invention, as claimed for example in independent method claim 1, relates to rendering sub-component-oriented characters within the displayed image using a hardware graphics unit. The method generates a bit-map representation of a sub-component-oriented character by using a sample to generate each pixel sub-component; processes the sub-component-oriented character to interface with an application program interface of the hardware graphic unit—the application program interface is configured to treat each pixel as a single luminance intensity source, rather than treating each pixel sub-component as a single luminance intensity source; and renders the sub-component-oriented character on the display device by making one or more function calls to the hardware graphics unit using the application program interface. Independent claim 11 recites similar limitations from the perspective of a computer program product.

Applicants' invention, as claimed for example in independent system claim 22, relates to a computer system comprising a processing unit; a hardware graphics unit configured to respond to function calls via an application program interface that is configured to treat each pixel as a single luminance intensity source, rather than treating each pixel sub-component as a single luminance intensity source; a display device for displaying an image and having a plurality of pixels, at least some of the plurality of pixels including a plurality of pixel sub-components each of a different color; and one or more computer-readable media having computer-executable instructions stored thereon. When executed by the processing unit, the computer-executable instructions are configured to instantiate a scaling unit configured to overscale a character representation; a scan conversion unit configured to place the overscaled character representation on a grid, and configured to assign at least a luminance intensity value to each grid position based on the properties of the overscaled character representation at that grid position, wherein each grid position corresponds to a particular pixel sub-component, wherein each pixel sub-component of the overscaled character representation corresponds to one or more grid positions; and an adaptation module configured to make one or more function calls to the hardware graphics unit through the application program interface using at least the luminance intensity values assigned to each grid position to cause the hardware graphics unit to render the character represented by the character representation.

In rejecting independent claims 1, 11 and 22, the Office Action asserts that paragraph [0126] of *Taylor* teaches processing a sub-component-oriented character to interface with an application program interface of a hardware graphics unit, wherein the application program interface is configured to treat each pixel as a single luminance intensity source, rather than treating each pixel sub-component as a single luminance intensity source. Office Action, p. 3. The Office Action attempts to bolster this analysis when responding to Applicants' arguments filed on June 11, 2004 by noting an apparent conflict in the language of claim 1. Office Action, p. 6 (Response to Arguments). Applicants respectfully disagree.

First, Applicants point out that there is no conflict in the recited claim language. The application program interface is configured to treat each pixel as a single luminance intensity source, rather than treating each pixel sub-component as a single luminance intensity source. In other words, the application program interface is not configured to treat each pixel sub-component as a single luminance intensity source.

Furthermore, as explained in Applicants' previous response, paragraph [0126] of *Taylor* refers to DirectX®, which Applicants use as an example of a conventional application programming interface that allows for only one transparency value corresponding to a pixel as a whole, and therefore has an apparent incompatibility with sub-component-oriented pixel processing. See Specification, ¶¶ [0069]-[0070]. At least in this respect, Applicants concur with the Office Action's analysis—specifically that *Taylor* discloses an application program interface (i.e., DirectX®) configured to treat each pixel as a single luminance intensity source.

However, *Taylor* fails to teach, suggest, or motivate processing a sub-component-oriented character to interface with the application program interface. Rather, paragraph [0126] of *Taylor* simply discloses:

When multiple texture maps per pixel is enabled, the plane converter sends two sets of planar coefficients per primitive. The DirectX® API defines multiple textures that are applied to a polygon in a specific order. Each texture is combined with the results of all previous textures or diffuse color/alpha for the current pixel of a polygon and then with the previous frame buffer value using standard alpha-blend modes. Each texture map specifies how it blends with the previous accumulation with a separate combine operator for the color and alpha channels. (emphasis added).

Applicants note that this cited passage of *Taylor* makes no reference to sub-component-oriented characters in general, nor to processing a sub-component-oriented character to interface with the application program interface in particular, but only to a pixel as a whole.

In other words, the sub-component-oriented character is processed in a way that allows it to interface with an application program interface that is configured to treat each pixel, as opposed to each pixel sub-component, as a single luminance intensity source. Otherwise, a sub-component-oriented character would be incompatible with the application program interface. Accordingly, Applicants respectfully submit that the cited prior art fails to teach or suggest all the claim limitations of pending independent claims 1, 11, and 22, and therefore the rejection of claims 1, 11, and 22 under 35 U.S.C. § 103(a) as being unpatentable over *Stamm* in view of *Taylor* is improper and should be withdrawn.

Applicants again refer the Examiner to the explicit definition of "sub-component-oriented character" in paragraph [0049] of the specification (e.g., a character that treats each pixel sub-component as a distinct luminance intensity source) and note that pixel sub-components are described in the background, beginning with paragraph [0005].

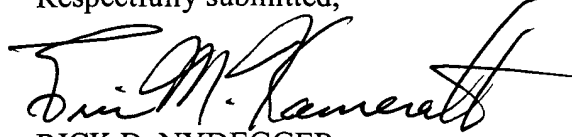
Should the Examiner choose to continue asserting that paragraph [0126] of *Taylor* teaches processing a sub-component-oriented character to interface with the application program interface, Applicants respectfully request that the Examiner indicate the language in *Taylor* which corresponds to processing a sub-component-oriented character to interface with an application program interface, as recited in independent claims 1 and 11, as well as indicating the language in *Taylor* which corresponds to the claim language recited in claim 22.

Based on at least the foregoing reasons, Applicants respectfully submit that the cited prior art fails to anticipate or make obvious Applicants invention, as claimed for example, in independent claims 1, 11, and 22. Applicants note for the record that the remarks above render the remaining rejections of record for the independent and dependent claims moot, and thus addressing individual rejections or assertions with respect to the teachings of the cited art is unnecessary at the present time, but may be undertaken in the future if necessary or desirable, and Applicants reserve the right to do so.

In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 17th day of September, 2004.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Eric M. Kamerath", with a stylized flourish at the end.

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